CATALOG DOCUMENTATION
REGIONAL ENVIRONMENTAL MONITORING AND ASSESSMENT PROGRAM - REGION 1
1993-1994 FISH TISSUE CONTAMINATION IN MAINE LAKES
LAKE LOCATION AND MORPHOMETRIC DATA

TABLE OF CONTENTS

1. DATA SET IDENTIFICATION

1.1 Title of Catalog document

Regional Environmental Monitoring and Assessment Program - Region 1
1993-94 Fish Tissue Contamination in Maine Lakes
Lake Location and Morphometric Data

1.2 Author of the Catalog entry

Melissa Hughes, OAO Corporation

1.3 Catalog revision date

6 March 1998

1.4 Data set name

REMAPLKS

1.5 Task Group

Region 1

1.6 Data set identification code

00001

1.7 Version

001

1.8 Requested Acknowledgment

If you plan to publish these data in any way, EPA requires a standard statement for work it has supported:

"Although the data described in this article have been funded wholly or in part by the U. S. Environmental Protection Agency through its Regional EMAP program, it has not been subjected to Agency review, and therefore does not necessarily reflect the views of the Agency and no official endorsement should be inferred."

2. INVESTIGATOR INFORMATION

2.1 Principal Investigators

Barry Mower
Jeanne DiFranco
Linda Bacon
David Courtemanch
State of Maine Department of Environmental Protection

2.2 Investigation Participant-Sample Collection

Not applicable

3. DATA SET ABSTRACT

3.1 Abstract of the Data Set

The R-EMAP Region 1 Lake Location and Morphometric data set contains geographic and physical (morphometric) information on 125 of 150 targeted lakes in the State of Maine. These 150 lakes were selected from a population of 1800 Maine lakes that have been surveyed by the Maine Department of Inland Fisheries and Wildlife (DIFW). The remaining target lakes were not sampled due to limitations such as accessibility and availability of desired fish species.

3.2 Keywords for the Data Set

Lake, Maine, surface water, physical characteristics, morphometric characteristics, lake location, EPA region

4. OBJECTIVES AND INTRODUCTION

4.1 Program and Project Objectives

4.1.1 Program Objective

Regional Environmental Assessment and Monitoring Program (R-EMAP) was initiated to test the applicability of the EMAP approach to answer questions about ecological conditions at regional and local scales. Using EMAP's statistical design and indicator concepts, R-EMAP conducts projects at smaller geographic scales and in shorter time frames.

4.1.2 Project Objective

The primary goal of this study was to estimate the levels of contamination in fish populations, and the risk these levels pose to human and wildlife consumers. The primary objective was to determine concentrations of cadmium, lead, mercury, PCBs and selected pesticides in fish collected from Maine lakes.

4.2 Data Set Objective

The Lake Location and Morphometric data set characterizes the geographic and physical information of 125 Maine lakes using existing databases developed by the State of Maine.

4.3 Data Set Background Discussion

From a population of 1800 Maine lakes and ponds that have been surveyed by the Maine DIFW and have principal fisheries, one hundred and fifty lakes were selected using the EMAP sampling design. This method is based on the requirements for probability sampling used in statistical analyses, and ensures that the water bodies were chosen randomly and represent all geographic areas of the state. All lakes and ponds in Maine have been assigned unique "MIDAS" (Maine Information Display Analysis System) numbers that are used throughout this study.

4.4 Summary of Data Set Parameters

These data set values were extracted from two existing databases developed by the State of Maine. These are the Maine DIFW surveyed lakes database and the Maine Department of Environmental Protection (DEP) Lake Inventory Report database.

5. DATA ACQUISITION AND PROCESSING METHODS

5.1 Data Acquisition

5.1.1 Sampling Objective

Not applicable.

5.1.2 Sample Collection Methods Summary

Not applicable.

5.1.3 Sampling Start Date

June 1993
September 1994

5.1.4 Sampling End Date

September 1993
September 1994

5.1.5 Platform

Not applicable.

5.1.6 Sampling Equipment

Not applicable.

5.1.7 Manufacturer of Sampling Equipment

Not applicable.

5.1.8 Key Variables

The data, including lake and pond name, geographic location, total area, watershed area, and flushing rate, are excerpted from existing state of Maine databases.

5.1.9 Sampling Method Calibration

Not applicable.

5.1.10 Sample Collection Quality Control

Not applicable.

5.1.11 Sample Collection Method Reference

Not applicable.

5.2 Data Preparation and Sample Processing

Not applicable

6. DATA MANIPULATIONS

The values in this data set were assigned from existing databases.

6.1 Name of new or modified values

Not applicable.

6.2 Data Manipulation Description

Not applicable.

6.3 Data Manipulation Examples

Not applicable.

7. DATA DESCRIPTION

7.1 Description of Parameters

CONTENTS

Data Set Name: REMAPLKS Observations: 125
Engine: V612 Variables: 23

#	Parameter SAS Name	Data Type	Len	Format	Parameter Label
1	MIDAS	Char	8	$8.	Lake identification number
2	LAKE	Char	20	$20.	Lake name
3	TOWN	Char	10	$10.	Town
4	COUNTY	Char	12	$12.	County
5	ACRES	Num	8	9.	Surface area (acres)
6	MAP	Char	20	$20.	15' USGS Quad
7	MAXDEPTH	Num	8	7.	Maximum depth
8	MEATLAS	Char	6	$6.	DELORME Maine Atlas map number
9	AVDEPTH	Num	8	9.	Average depth (ft)
10	SHOREFT	Num	8	9.	Shoreline length (ft)

7.1 Description of Parameters, continued

#	Parameter SAS Name	Data Type	Len	Format	Parameter Label
11	LAKETYPE	Num	8	5.	Lake type (DIFW code)
12	STRAT	Num	8	7.	Lake stratifies: Y=Yes, N=No
13	ELEVATN	Num	8	10.	Elevation above sea level (ft)
14	AREA	Num	8	12.2	Drainage area (mi2)
15	LATITUDE	Char	12	$12.	Latitude
16	LNGITUDE	Char	12	$12.	Longitude (negative)
17	S	Char	8	$8.	Source of LAT/LONG (code)
18	VOL_M3	Num	8	17.1	Volume (m3; DEP Lake Inventory Report)
19	SA_HA	Num	8	14.1	Surface area (ha; DEP Lake Inventory Report)
20	WA_KM2	Num	8	12.2	Watershed area (km2: DEP Lake Inventory Report)
21	RF	Num	8	10.4	Runoff factor (DEP Lake Inventory Report)
22	FLUSH	Num	8	11.3	Flushing rate (#/yr; DEP Lake Inventory Report)
23	DAM	Char	6	$6.	ME Interior Fish and Wildlife impoundment class (code)

7.1.6 Precision to which values are reported

Values are accurate to the decimals reported in Section 7.1.

7.1.7 Minimum value in data set

Variable	Minimum
ACRES	7
MAXDEPTH	5
AVDEPTH	3
SHOREFT	1584
ELEVATN	15
AREA	0.00
VOL_M3	53338.4
SA_HA	3.0
WA_KM2	0.21
RF	0.0593
FLUSH	0.052

7.1.8 Maximum value in data set

Variable	Maximum
ACRES	14340
MAXDEPTH	158
AVDEPTH	69
SHOREFT	88735
ELEVATN	1700
AREA	762.00
VOL_M3	100000000000.0
SA_HA	5834.0
WA_KM2	1973.57
RF	0.7620
FLUSH	64.065

7.2 Data Record Example

7.2.1 Column Names for Example Records

MIDAS;LAKE;TOWN;COUNTY;ACRES;MAP;MAXDEPTH;MEATLAS;AVDEPTH;SHOREFT;LAKETYPE;STRAT;
ELEVATN;AREA;LAT;LONG;S;VOL_M3;SA_HA;WA_KM2;RF;FLUSH;DAM;

7.2.2 Example Data Records

MIDAS;LAKE;TOWN;COUNTY;ACRES;MAP;MAXDEPTH;MEATLAS;AVDEPTH;SHOREFT;LAKETYPE;STRAT;
ELEVATN;AREA;LAT;LONG;S;VOL_M3;SA_HA;WA_KM2;RF;FLUSH;DAM;

5572;BURNT MEADOW P;BROWNFIELD;OXFORD;63;BROWNFIELD;45;04;17;7920;2;1;374;4.00;
43 55 28;70 53 09;G;1380386.3;27.0;9.97;0.6223;4.495;1;
3124;BEAVER P;DENMARK;OXFORD;128;HIRAM;8;04;5;10154;3;2;397;2.00;43 59 47;
70 49 26;G;424673.7;32.0;5.52;0.6096;7.919;1;
3126;GRANGER P;DENMARK;OXFORD;126;HIRAM;28;04;12;15110;3;2;524;1.00;43 57 06;
70 46 50;G;1998206.3;51.0;3.13;0.6096;0.956;3;
3252;PLEASANT P;FRYEBURG;OXFORD;239;FRYEBURG;15;04;7;15231;3;2;362;14.00;
44 00 24;70 53 25;U;194929.2;9.0;3.73;0.0648;1.239;1;

8. GEOGRAPHIC AND SPATIAL INFORMATION

8.1 Minimum Longitude

-71 Degrees 00 Minutes 47 Decimal Seconds

8.2 Maximum Longitude

-67 Degrees 10 Minutes 30 Decimal Seconds

8.3 Minimum Latitude

43 Degrees 15 Minutes 21 Decimal Seconds

8.4 Maximum Latitude

47 Degrees 07 Minutes 11 Decimal Seconds

8.5 Name of area or region

EPA Region 1

Lakes for sampling were located in the state of Maine.

9. QUALITY CONTROL AND QUALITY ASSURANCE

9.1 Data Quality Objectives

Not Applicable

9.2 Data Quality Assurance Procedures

Unless otherwise noted, the source of these data is the DIFW surveyed lakes database. Note that lake area and watershed area each appear twice in the database. Lake area appears in the field ACRES which originates from IFW as well as in the field SA_HA, which originates from DEP's Inventory Report database. Likewise, watershed area is listed under the field AREA (originating from IFW) and WA_KM2 (originating from DEP's Lake Inventory Report database). The data contained in fields originating from DEP are probably more accurate, but may not be available for as many of the lakes.

10. DATA ACCESS

10.1 Data Access Procedures

Data can be downloaded from the WWW site or contact personnel listed in Section 10.3.

10.2 Data Access Restrictions

Not applicable

10.3 Data Access Contact Persons

Linda C. Bacon
State of Maine Department of Environmental Protection
Bureau of Land and Water Quality
Division of Environmental Assessment
State House Station 17
Augusta, ME 04333
Linda.C.Bacon@state.me.us

Data Librarian EMAP-Information Management
U.S. EPA NHEERL-AED
(401) 782-3184 (Tele)
(401) 782-3030 (FAX)
hughes.melissa@epa.gov

10.4 Data Set Format

Data files are in ASCII semi-colon delimited format.

10.5 Information Concerning Anonymous FTP

Data cannot be accessed via ftp.

10.6 Information Concerning WWW

Data can be downloaded from the WWW site.

10.7 EMAP CD-ROM Containing the Data Set

Data are not available on CD-ROM

11. REFERENCES

DiFranco et. al., 1995. Fish Tissue Contamination in Maine Lakes. Data Report. State of Maine Department of Environmental Protection, Bureau of Land and Water Quality, Division of Environmental Assessment. September 1995.

Maine Department of Environmental Protection et al. 1993. Project Work/ Quality Assurance Plan, Fish Tissue Contamination in Maine Lakes. Maine Department of Environmental Protection, Maine Department of Inland Fisheries and Wildlife and USEPA Region 1 Environmenntal Services Division. September 20, 1993.

12. TABLE OF ACRONYMS

ACRONYM	DESCRIPTION
DEP	Maine Department of Environmental Protection
DIFW	Maine Department of Inland Fisheries and Wildlife
EMAP	Environmental Monitoring and Assessment Program
EPA	Environmental Protection Agency
HetL	Maine Department of Human Services Health and Environmental Testing Laboratory
MIDAS	Maine Information Display Analysis System - unique number assigned to each Maine lake
PCBs	polychlorinated biphenyls
QA	Quality Assurance
QA/QC	Quality Assurance/Quality Control
REMAP	Regional Environmental Monitoring and Assessment Program
UMO	National Biological Survey and Sawyer Environmental Chemistry Laboratories at the University of Maine at Orono

13. PERSONNEL INFORMATION

Jeanne DiFranco
Linda Bacon
David Courtemanch
Barry Mower
State of Maine Department of Environmental Protection
Bureau of Land and Water Quality
Division of Environmental Assessment
State House Station 17
Augusta, ME 04333
(207) 287-3901
Barry.F.Mower@state.me.us
Jeanne.L.Difranco@state.me.us
Linda.C.Bacon@state.me.us
Dave.L.Courtemanch@state.me.us

Melissa M. Hughes
EMAP-Information Management
OAO Corp. c/o U.S. EPA NHEERL-AED
27 Tarzwell Drive
Narragansett, RI 02882-1197
(401) 782-3184 (Tele)
(401) 782-3030 (FAX)
hughes.melissa@epa.gov

Ray Thompson
U.S. EPA - Region 1
Environmental Services Division
60 Westview Street
Lexington, MA 02173
(781) 860-4300 (Tele)
thompson.ray@epa.gov